

SLOTTEDWEB MOMENT CONNECTION (SSDA) VS. SIDEPLATE®

20 Story office building in high seismic

AREA: 342,000 s.f. (ETABS model)

Material Take-Off & Estimated Costs:

FABRICATOR	SlottedWeb - SSDA FIXED Base WEIGHTS (PSF)		SidePlate® - FIXED Base WEIGHTS (PSF)	
Lateral Columns	W30X,W33,W36,BU36,BU38		W24X,W27X,W30X	
	7.44		7.01	
Lateral Beams & Braces	W30X,W33X,W36X		W24X,W27X,W30X,W33X,W36X,W40	
	4.64		3.13	
Gravity Columns & Beams	6.13		6.54	
Connection Plates	0.70		2.08	
Misc. Steel (~10% of total steel)	1.90		1.90	
TOTAL STEEL WEIGHT⁽¹⁾	20.81 psf (3559 Tons)		20.66 psf 20.66 psf (3533 Tons)	
TOTAL SHOP JOINTS (stiffeners w/ or w/out doublers or side plates)	520	CJP Welded	0	CJP Welded
	Yes	Doubler Plates (Y/N)	400	Fillet Welded
TOTAL SHOP BEAM ENDS (prep for field CJP welding or cover plates & erecting angles)	800	Beam Ends to prep for field CJP welding	0	Beam Ends to prep for field CJP welding
			620	Beam Ends with Cover Plates & Erecting Angles
			180	<u>Converted</u> to simple gravity connections
ERECTOR				
TOTAL FIELD BEAM ENDS (CJP welding or Fillet welding)	800	CJP Welded Flanges	0	CJP Welded Flanges
	Yes	CJP Welded Web (Y/N)	620	Fillet Welded Plate to Plate
			180	<u>Converted</u> to simple gravity connections
FAB & ERECT COSTS				
Estimated Fabricated & Erected Steel Costs	\$10,319,679 \$2,900 /ton		\$10,245,294 \$2,900 /ton	
License Fee	\$120,000.00		\$168,000.00	
Estimated Fabricated & Erected Steel Costs, including SidePlate License Fee	\$10,439,679		\$10,413,294	

SLOTTEDWEB MOMENT CONNECTION (SSDA) VS. SIDEPLATE® (CONT.)

TESTING		
Owner's Testing Costs: <u>Shop</u> Non-Destructive Testing	520 Joints @ 1.5hrs/joint	0 Joints @ 1.5hrs/joint
	\$90/hr for UT Inspection	\$90 /hr for UT Inspection
	\$70,200	\$0
Owner's Testing Costs: <u>Field</u> Non-Destructive Testing	800 Conn @ 1.5hrs/BM End	620 Conn @ 1.0hrs/BM End
	\$90 /hr for UT Inspection	\$90 /hr for MT Inspection
	\$108,000	\$55,800

(1) BFP connection full-scale testing and prequalifications per FEMA 350 *Acceptance Criteria* is **not applicable** to curved moment frame and biaxial applications; skewed connections have **not been tested**.

Recommendation:

Use SidePlate® connection technology and **save the client an estimated \$148,785 and here's how!**

Estimated Steel Reduction		Estimated Field CJP Welded Connections Converted To Gravity Connections		Estimated Savings For Steel Fabrication & Erection	Estimated Savings for N.D.T. Inspections	Estimated Savings On Construction Schedule**
0.15	PSF	180	23%	\$26,385	\$122,400	15 Days